

Work Order ID 81230

81230

Page 1

March-12-12 12:38:30 PM

Item ID: D206-642-241

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube

Stop *NS2*

Start Date: 12/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 26/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12/03/12 Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2650

Rev F

100

0.00

100

DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-241 CHG005

MLJ 12/06/07

8/12/06/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00

110

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-Debur Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D2650

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty Part Number DescriptionBatch

A/R Aluminum Rod M120164/M120854

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg 2650 from front of tube and Debur

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D2650

7-Open holes for Aft end cap as per Dwg D2650 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt 8167.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

Handwritten: 12-05-14

Handwritten: 8E12-05-14

Handwritten: KM

Handwritten: 12-5-14

Handwritten: SAP 12-05-14

W/O:		WORK ORDER CHANGES					
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Page 3

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NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D2650

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D2650

15-C'sink GHW rivet holes as per Dwg D2650

SAD 12.05.15

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Sad 12/5/15

Quality Control

(Signature)

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Page 4

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Run Start

NR1

QC:

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SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Skidtubes	Skidtubes	0.00							
	Memo	0.00							
	1-Open crossbolt holes to Ø0.3125"								
	2-Drill pilot holes using DT8028-3, then open to Ø0.297" as per Dwg D2650. Open Aft cap hole #6.								
	3-Deburr tube and blow out chips from inside the tube								
140 *140* HandFinish	Chemical Conversion Coat per QSI005 4.1	0.00							
	Memo	0.00							
	Hand Finishing								
150 *150* QC	QC7-Inspect Chemical Conversion Coat	0.00							
	Memo	0.00							
	Quality Control								

Rm 12-5-15

12-05-15

① SAI 12-05-15

Dart Aerospace Ltd

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March-12-12 12:38:30 PM

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Page 5

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Required Date: 26/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

0.00

160

Skidtubes

Skidtubes

Memo

0.00

1-Open holes to finished size as per Dwg D2650, D2650-3 Drilling Detail
(without cutting fluid)

2-C'sink crossbolt spacer holes as per Dwg D2650(without cutting fluid)

3-Deburr and blow out all chips from inside the tube

① SAA Dr. 05-16

170

QC6- Inspect dimensions to drawing

0.00

170

QC

Memo

0.00

Quality Control

1 J BE 12-05-16

Dart Aerospace Ltd

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March-12-12 12:38:30 PM

81230

Page 6

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1

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Required Date: 26/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180

0.00

180

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Locate, install and rivet doublers as per Dwg D2650. Micro-shave rivets as required

2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting

Start Date: 12-05-16 Time: 5h00Finish Date: 12-05-17 Time: 10:00

Pick:

Qty Part Number Description Batch

A/RSikaflex-291 M121 221
Sikaflex expire date: 2013-01-04

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

① SAD 12-05-15SAD
12-05-161 8 BE12-05-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Work Order ID 81230

March-12-12 12:38:30 PM

81230

Page 7

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Setup Start

NS1

Revision ID:

Item Name: Replacement Skidtube

Stop

NS2

Start Date: 12/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 26/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

0.00

200

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

QtyPart NumberDescriptionBatch

A/RAluminum Rod

M120164

3-Grind welds flush as per Dwg D2650.

→

CF 12-5-22

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D2650. Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required.

A/RSS Rod

NONE BE 12/05/22

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D2650. Deburr

DP 12-5-23

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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March-12-12 12:38:30 PM

81230

Page 8

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

210

HandFinish

Hand Finishing

HandFinishing

Memo

Install D2680-041 Nut Plate as per Dwg D2650

0.00

0.00

DP

12-5-23

220

220

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Sr 2/5/31

QC9

Memo

0.00

Pl 12-05-23

230

230

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Sr 2/5/31

Memo

0.00

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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March-12-12 12:38:30 PM

81230

Page 9

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Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

Pressure Wash per QSI005 4.3

0.00

240

HandFinish

Memo

0.00

Hand Finishing

Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.

1 2/6 12-5-31

250

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

250

Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

8.45
320°F
9:15

1X ✓ MF 12/06/08

260

QC3- Inspect Part Finish

0.00

260

QC

Memo

0.00

Quality Control

1X ✓ MU 12/06/08

W121134

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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March-12-12 12:38:30 PM

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Page 10

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Customer:

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

0.00

270

HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1- Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate.

A/R Sikaflex-291 121409Sikaflex expire date: 13/07

2-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D2650 (D2650-3 detail). Clean excess adhesive.

3-Install MS27039-4-06 Screw as per DEO 9153.

4 -Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 121409Sikaflex expire date: 13/07

5 -Wing Walk as per Dwg D2650-3 and QSI 005 4.4

A/R Batch: 121613

Batch: _____

ix 8 M 126414Sikaflex

300

QC5- Inspect part completeness to step on W/O

0.00

300

QC

Memo

0.00

Quality Control

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Tool #

Plan
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Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

310

0.00

310

Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-664-241

Location:

PPP Rev:

SHIP

446/2 ①

320

QC21- Final Inspection - Work Order Release

0.00

320

QC

Memo

0.00

Quality Control

MCS 12/06/07

MCS 12/06/07

W/O:		WORK ORDER CHANGES					
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Picklist Print

March-12-12 12:38:33 PM

Page 1

Work Order ID: 81230

81230

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: 04.12.02 Revised procedural steps KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by: ECIPP rev Q 10.02.19 per PAR 09-043 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2620		Manufactured	No			110	Each	18.0000	1	1			
D2620									**			12-05-14	
Skidtube, 206 Skidtube													

Location	Loc Qty	Loc Code
LG	18	
77999	1	
78000	4	
79542	1	
79543	2	
79544	8	
79545	2	

D3286-1		Manufactured	No			110	Each	175.0000	2	2			
D3286-1									**			12-05-14	
Doubler													

Location	Loc Qty	Loc Code
LG002	285	
74872	6	
78014	81	
79556	80	
ST046	-110	
76772	8	

D2647		Manufactured	No			110	Each	52.0000	1	1			
D2647									**			12-05-14	
Cap													

Location	Loc Qty	Loc Code
LG002	52	
75482	52	

BE 12-05-14
B79563 x1

W/O:		WORK ORDER CHANGES					
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March-12-12 12:38:33 PM

Page 2

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D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2654-3

Manufactured No

180

Each

1.0000

1

1

D2654-3

Web

**

SAD 12-05-16

Location

Loc Qty

Loc Code

LG

1

73442

1

82106

52

CR3212-4-04

Purchased

No

180

Each

6,599.000

52

52

CR3212-4-04

Cherry Rivet

**

SAD 12-05-15

Location

Loc Qty

Loc Code

ST331

168

116471

78

117816

3

118686

1

118840

16

119017

60

119075

10

st510

6431

119075

6431

52

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-12-12 12:38:33 PM

Page 3

Work Order ID: 81230

Parent Item: D206-642-241

Parent Item Name: Replacement Skidtube

81230

D206-642-241

Start Date: 12/03/2012

Start Qty: 1.00

Required Date: 26/03/2012

Required Qty: 1.00

D2649

Manufactured No

200

Each

1.629.000

18

18

D2649

Cross Bolt Spacer

**

BB 12/05/17

Location

Loc Qty

Loc Code

LG

1172

77574

2

79502

403

79503

399

79504

107

79565

261

LG001

457

65317

1

68224

2

68507

11

71355

2

72704

2

72841

11

73390

8

73857

21

73858

53

73859

4

73860

4

78020

6

78583

2

79566

330

D3286-3

Manufactured No

200

Each

99.0000

2

2

D3286-3

Spacer

**

BB 12/05/22

Location

Loc Qty

Loc Code

LG

5

78015

5

LG001

94

74117

1

79557

93

2

March-12-12 12:38:34 PM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-12-12 12:38:34 PM

Page 4

Work Order ID: 81230

Parent Item: D206-642-241

Parent Item Name: Replacement Skidtube

81230

D206-642-241

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

210 Each

152.0000 1 1

D2680-041

Nut Plate

**

DP 12-5-23

Location

Loc Qty

Loc Code

ST013

116

78016

116

ST019

36

76790

36

CR3212-4-03

Purchased No

210 Each

1,468.000 2 2

CR3212-4-03

Cherry Rivet

**

DP 12-5-23

Location

Loc Qty

Loc Code

FP002

478

114859

478

ST331

990

110139

2

119017

988

CCR264SS3-3

Purchased No

210 Each

695.0000 2 2

CCR264SS3-3

Cherry Rivet

**

DP 12-5-23

Location

Loc Qty

Loc Code

ST331

695

113973

2

117849

125

119017

568

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-12-12 12:38:34 PM

Page 5

Work Order ID: 81230

81230

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270 Each

138.0000 1 1

D2646

Aft Cap

**

1 20 12/05/05

Location

Loc Qty

Loc Code

FP002

138

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

78018

26

79500

46

79562 ✓

50

D2651-1

Manufactured No

270 Each

677.0000 18 18

D2651-1

Plug

**

18 20 12/05/05

Location

Loc Qty

Loc Code

FP001

884

57869

1

66445

10

69018

2

70827

2

70839

8

71037

8

77559

30

78584

245

79234

278

FP-A

-207

77559

1

78124

92

81954 ✓

March-12-12 12:38:34 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-12-12 12:38:34 PM

Page 6

Work Order ID: 81230

81230

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

AN960JD416 *NAS1149D0463J Purchased

No

270

Each

14.0000

1

1

AN960JD416

Washer

12/9/12 ✓

**

1 (2P) 12/05/05

Location

Loc Qty

Loc Code

ST351

14

116289

14

D2651-3

Manufactured

No

270

Each

1,944.000

18

18

D2651-3

O-Ring

**

18 (2P) 12/06/05

Location

Loc Qty

Loc Code

FP001

16

61962

12

73828

4

FP-A

1928

78126 ✓

1928

MS27039-1-08

Purchased

No

270

Each

1,153.000

46

46

MS27039-1-08

Screw

**

46 (2P) 12/06/05

Location

Loc Qty

Loc Code

ST291

1153

117423

81

119075

88

120308 ✓

984

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-12-12 12:38:34 PM

Page 7

Work Order ID: 81230

81230

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

270

Each

4.809.000

44

44

AI S4-1032-130

Insert

**

44

(20)

12/06/05

Location

Loc Qty

Loc Code

ST280

121269 ✓

635

119084

116

120671

519

ST281

4174

120410

174

120807

2000

120837

2000

MS27039-4-06

Purchased

No

270

Each

192.0000

1

1

MS27039-4-06

Screw

**

1

(20)

12/06/05

Location

Loc Qty

Loc Code

ST292

119075 ✓

192

119075 ✓

192

AN960JD10L

~~Y~~ NAS1149D0332J

Purchased

No

270

Each

0.0000

46

46

*AN960JD10L *

Washer

**

46

(20)

12/06/05

D3537-1

Manufactured

No

270

Each

157.0000

4

4

D3537-1

Wearpad

**

4

(20)

12/06/05

Location

Loc Qty

Loc Code

FP001

84691 ✓

104

79833

50

79835

54

FP002

53

69817

5

79834

48

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-12-12 12:38:34 PM

Page 8

Work Order ID: 81230

81230

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-3

Manufactured No

270 Each

18.0000 1 1

D3537-3

Wearpad

**

1 (2P) 12/06/05

Location

Loc Qty

Loc Code

FP002 81303 ✓ 18
74500 13
76986 5

D3535-13

Manufactured No

270 Each

22.0000 1 1

D3535-13

Wearshoe

**

1 (2P) 12/06/05

Location

Loc Qty

Loc Code

FP001 22
78962 9
79850 1
80327 ✓ 12

D3536-13

Manufactured No

270 Each

17.0000 1 1

D3536-13

Gasket

**

1 (2P) 1

Location

Loc Qty

Loc Code

FP002 181824 ✓ 17
78964 ✓ 17

D3535-21

Manufactured No

270 Each

27.0000 1 1

D3535-21

Wearshoe

**

1 (2P) 12/06/05

Location

Loc Qty

Loc Code

FP001 9
70380 3
80329 6
FP002 18
78987 ✓ 18

12:38:34 PM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

March-12-12 12:35

Picklist Print

March-12-12 12:38:34 PM

Page 9

Work Order ID: 81230

81230

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 12/03/2012

Required Date: 26/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3536-21	Manufactured	No	270	Each	25.0000	1	1
D3536-21						**	1 <u>DP</u> 12/06/05
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002 <u>83433</u> ✓	25	
70464	1	
78966	24	

D3535-33	Manufactured	No	270	Each	24.0000	1	1
D3535-33						**	1 <u>DP</u> 12/06/05
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001 <u>82751</u> ✓	24	
70462	9	
78984	15	

D3536-33	Manufactured	No	270	Each	17.0000	1	1
D3536-33						**	1 <u>DP</u> 12/06/05
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	17	
70382	3	
70465 ✓	14	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER
NO. 81230 MLJ
12/03/12

RELEASED

F

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	REMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW: INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED	J	DRAWING NO.	REV. F
MFG. APPR.	E	D2650	SHEET 1 OF 6
APPROVED	JP	TITLE	SCALE
DE APPR.	H	206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

Dart Aerospace Ltd

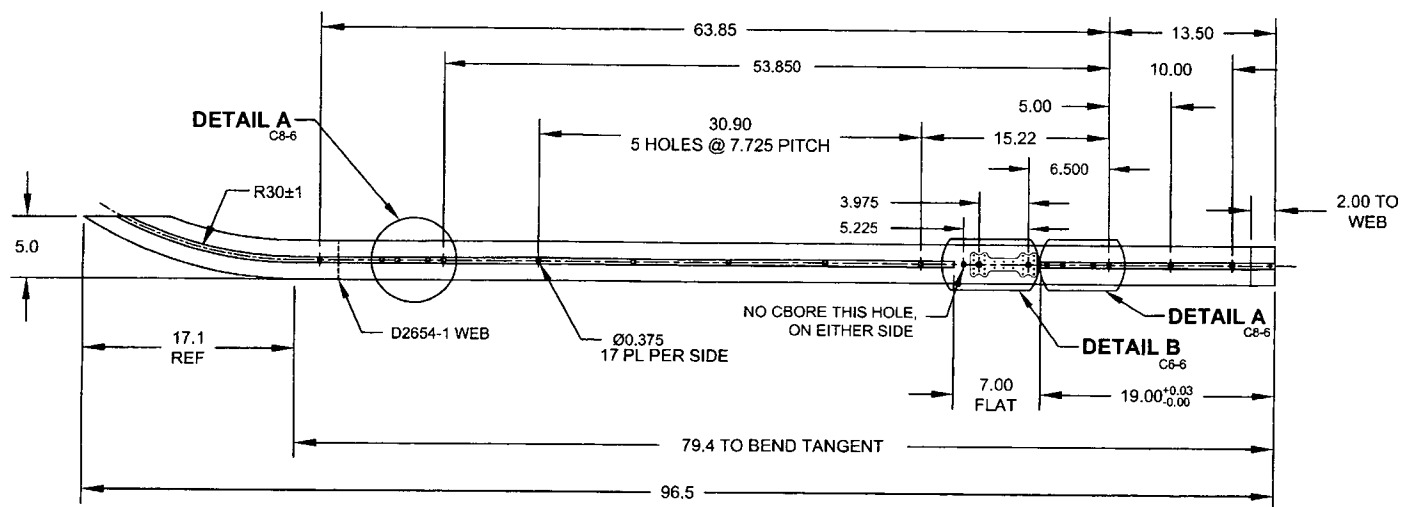
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

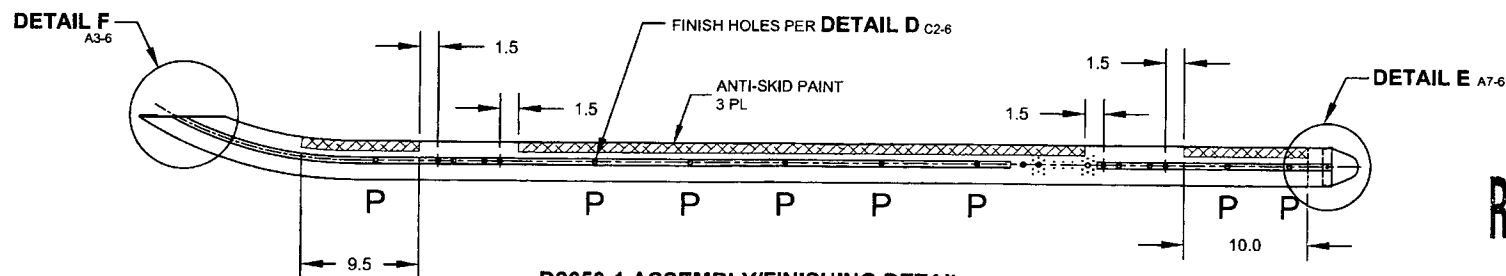
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-1 BENDING/DRILLING DETAIL



D2650-1 ASSEMBLY/FINISHING DETAIL

RELEASED
88 07 22 1/14

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 2 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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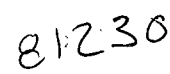
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DETAIL F
A3-6

FINISH HOLES PER **DETAIL D C2-6**

ANTI-SKID PAINT
3 PL

DETAIL E
A7-6




P P P P P P P P

15.5

12.0

RE_c

RELEASED
08 07 22

DESIGN	DS	DART AEROSPACE USA, INC.	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 3 OF 6
APPROVED		TITLE	SCALE
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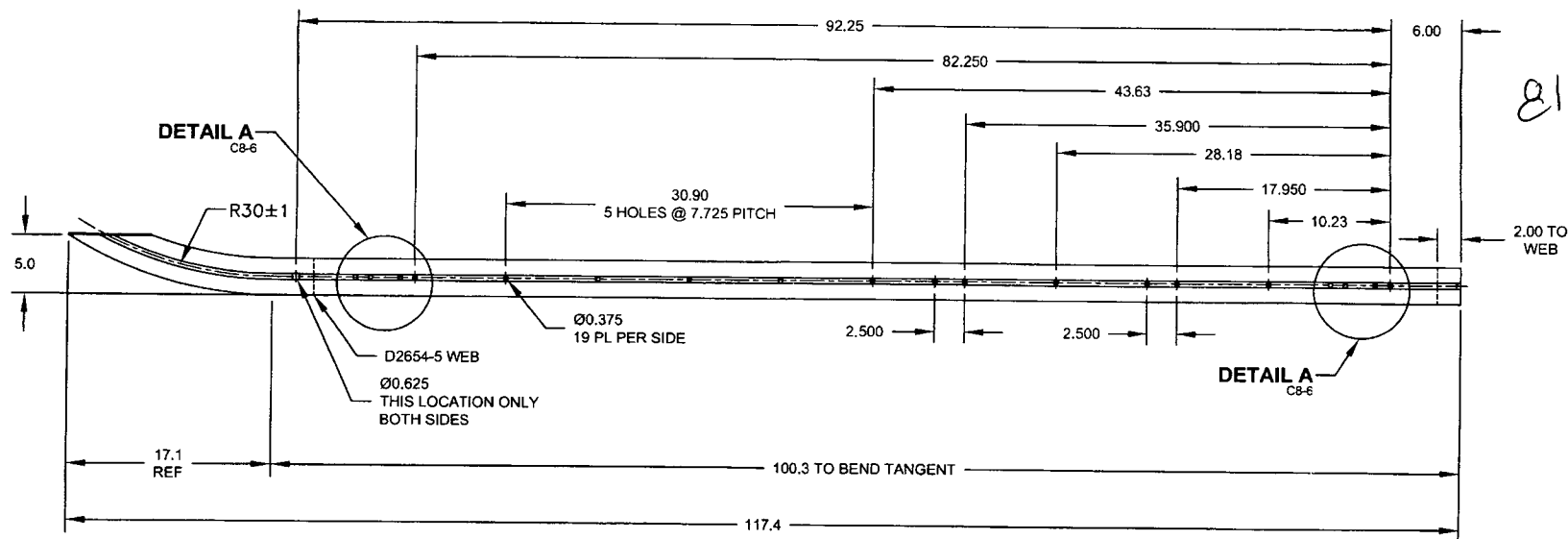
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

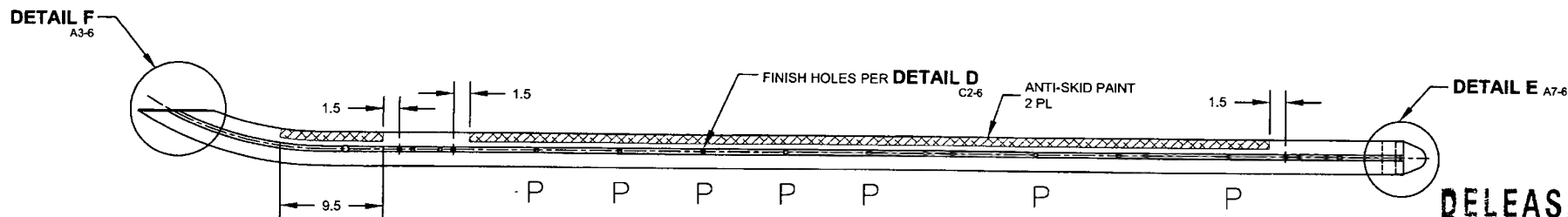
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-5 BENDING/DRILLING DETAIL



D2650-5 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 4 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	<small>COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

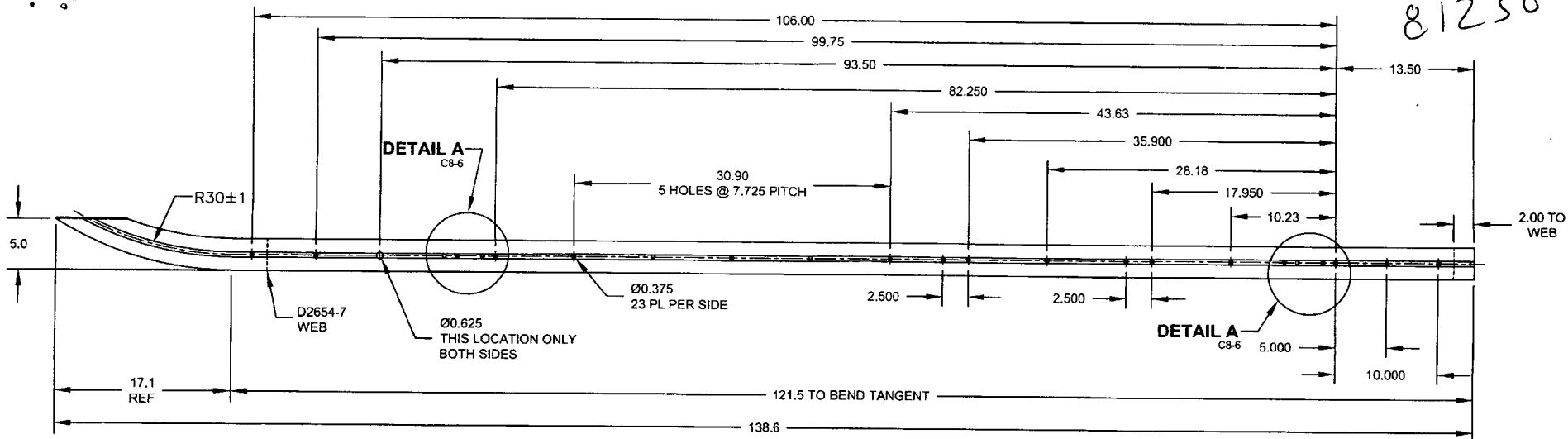
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

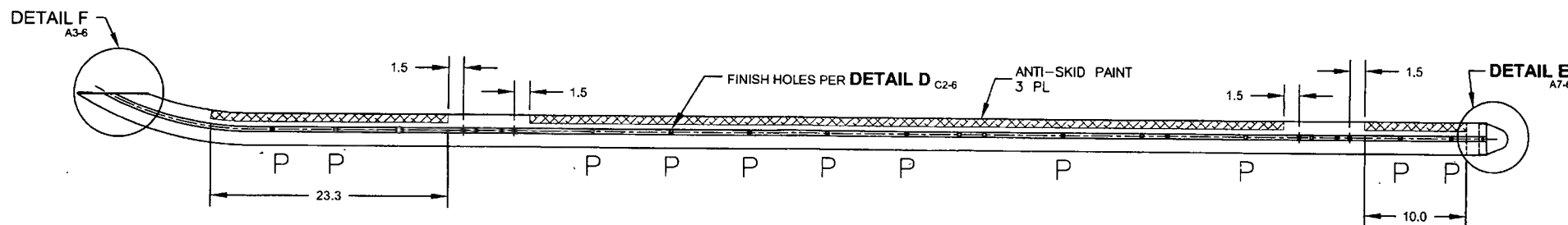
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-7 BENDING/DRILL DETAIL

RELEASED
08 07 22 1117



D2650-7 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 5 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	<small>COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

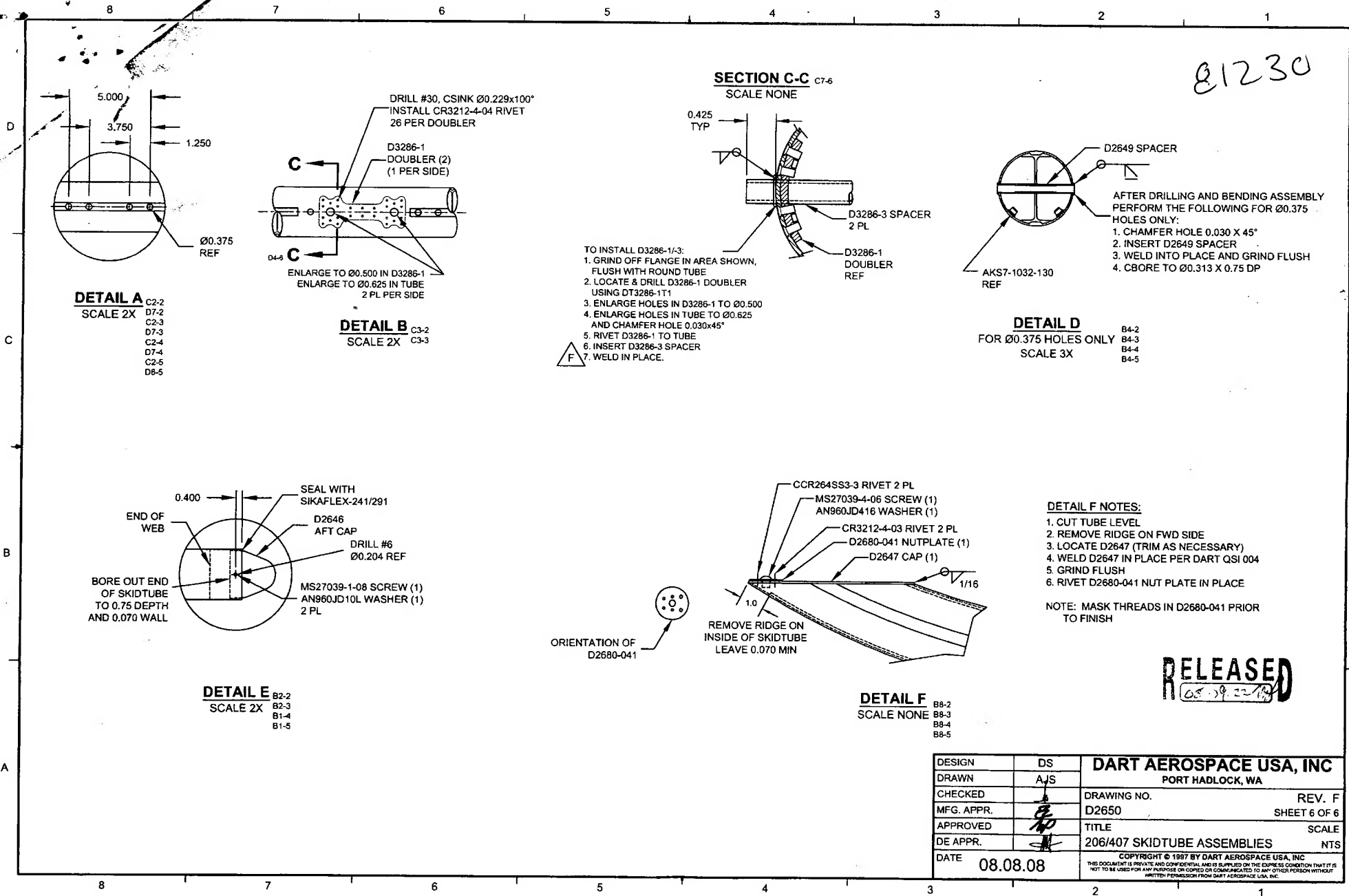
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng/ Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 295

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 83028
Part number: A206-642-241
Description: SKID tube
Welding Process: Tig[☒] Mig[]
Base material: Alum.
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier [Signature] Date of Test Coupon 12.05.23
Welder Barclay Elliott Date of Test Coupon 12.05.23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld